

# NORTHWOODS JOURNAL – NOVEMBER

## 2020 SPECIAL EDITION

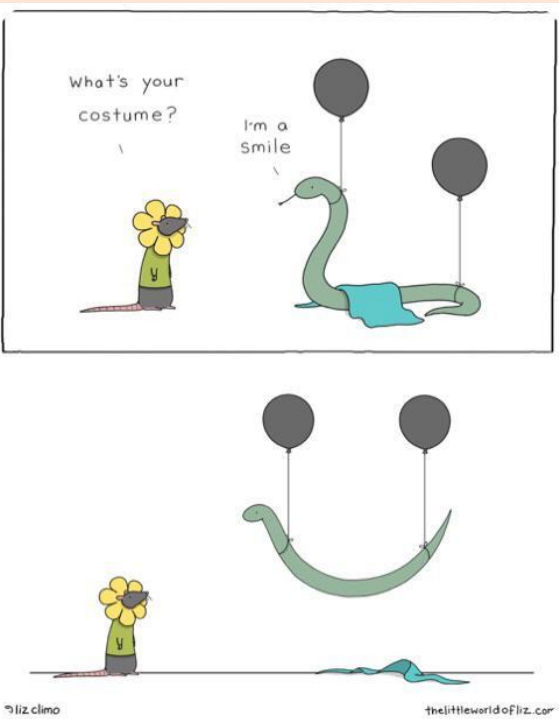
*A Free Publication about Enjoying and Protecting Marinette County's Outdoor Life*

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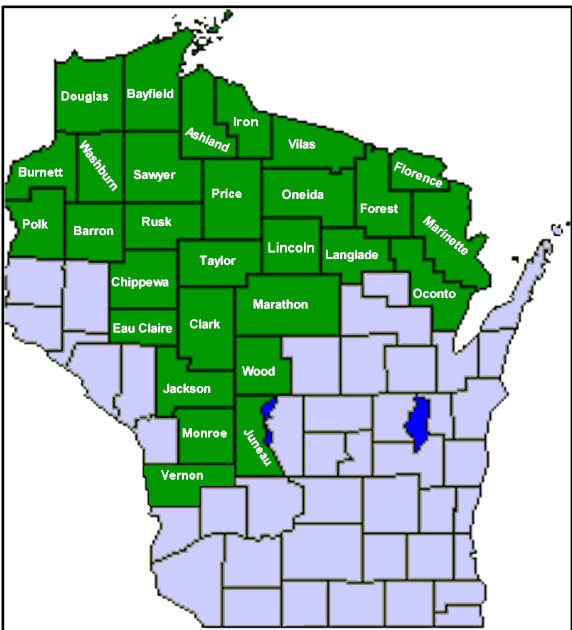
Happy Post-Halloween! A bit of animal costume humor...



### *The Marinette County Forest – an Abundance of Outdoor Recreation and Natural Resource Opportunities*



Marinette County's forests are a bountiful natural resource that many of us utilize in many ways. Whether it's camping, hiking, hunting, snowmobiling or four-wheeling, riding, kayaking/canoeing, skiing, birdwatching, visiting a rustic road or a waterfall, or foraging, we live in an area of natural abundance. Thousands of tourists visit Marinette County annually for our waters, forests, wildlife, and outdoor opportunities. **We have the second-largest acreage of county forest in the state at almost 230,000 acres.** Douglas County, in northwestern Wisconsin, has just over 280,000 acres.



Map from <https://www.wisconsincountyforests.com/>

Not only are the forest lands rugged and scenic, but they also make a profit for county taxpayers. Revenues from timber sales average \$1,500,000 per year which goes directly into the county operating budget. The county forest also supplies about 60,000 cords of wood a year for forest industries, which provide more jobs than any other industry in the county.



The history of Marinette County Forest is typical of other timbered counties across the Great Lakes Region. Originally this county was covered with magnificent stands of timber. These forests provided raw material for a thriving lumbering industry from 1880 to 1910. Around 1910 at the close of the logging era, 2/3 of the county was cut over and held for land settlement and farming. Prices of agricultural products remained high because of World War I.

During the fall of 1920 and the following year, agricultural prices dropped causing a long sustained drop in incomes. The new settlers with decreased incomes, had difficulty paying operating costs. As land contracts and mortgages became due, many farmers went out of business and consequently property taxes were not paid. By 1924 tax delinquency became an acute problem.

Marinette County recognized the magnitude of the tax delinquency situation and, at the urging of an energetic county treasurer, was one of the first counties to make wise use of tax deed laws. This county was among the first to participate in the Wisconsin County Forest Crop Laws, with the entry of 14,003 acres in 1930. It should be noted that the county board adopted this resolution in 1930 but state records indicate acceptance of this first entry in 1933.



Long Slide Falls

Information for this article from:

- <https://www.marinettecounty.com/departments/forestry-br/general-information/>
- <https://dnr.wisconsin.gov/topic/CountyForests>
- <https://www.wisconsincountyforests.com>



## Kids Learning in the Outdoors – Using Nature as a Classroom

The Land Information's Teaching Outdoor Awareness & Discovery (T.O.A.D.) program is in full swing this fall, with all programs being held outside near schools or in public parks due to COVID restrictions. This winter, outdoor programs will include winter ecology hikes, snowshoeing, nature games, and more!



Above: Crivitz 3<sup>rd</sup> graders learn about animal classification in a program called "All Creatures Great & Small".

Below: Marinette-Menominee Homeschoolers (top photo) at Marinette City Park and Goodman 1-4<sup>th</sup> graders (bottom photos) learn about trees and forests in "Tree Tots".



## 21 Reasons Why Forests Are Important

From <https://www.treehugger.com/>

Forests cover nearly a third of all land on Earth, providing vital organic infrastructure for some of the planet's densest, most diverse collections of life. They support countless species, including our own, yet we often seem oblivious of that. Humans now clear millions of acres from natural forests every year, especially in the tropics, letting deforestation threaten some of Earth's most valuable ecosystems.



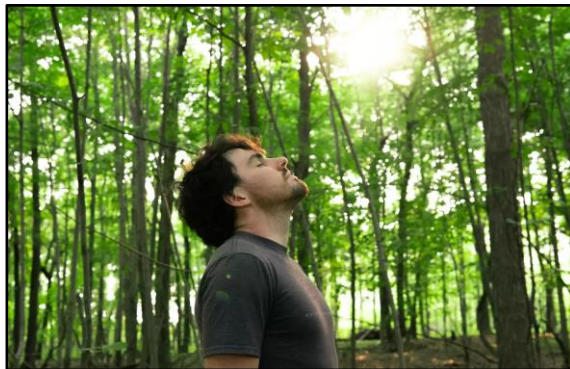
We tend to take forests for granted, underestimating how indispensable they still are for everyone on the planet. That would quickly change if they all disappeared, but since humanity might not survive that scenario, the lesson wouldn't be very useful by then. As the Once-ler finally realizes in Dr. Seuss' "The Lorax," a crisis like deforestation depends on indifference. "UNLESS someone like you cares a whole awful lot," Seuss wrote, "Nothing is going to get better. It's not."

Indifference, in turn, often depends on ignorance. So to help things get better for woodlands around the world, we'd all be wise to learn more about the benefits of forests - and to share that knowledge with others. That's the goal of events like Arbor Day and the International Day of Forests, a U.N. holiday observed annually on March 21. But forests support us every day of the year, and as deforestation runs rampant around the world, they increasingly need us to return the favor.

*In hopes of shedding more light on what forests do for us, and how little we can afford to lose them, here are 21 reasons why forests are so important:*

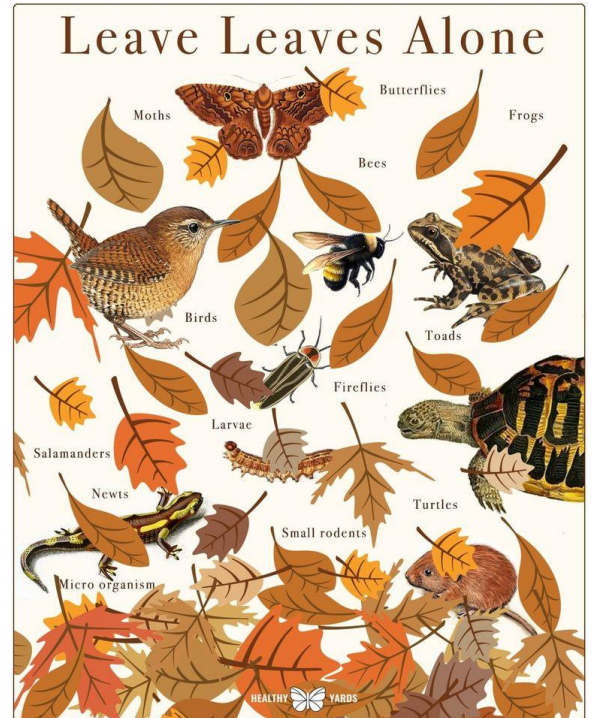
### 1. They help us breathe.

Forests pump out oxygen we need to live and absorb the carbon dioxide we exhale (or emit). A single mature, leafy tree is estimated to produce a day's supply of oxygen for anywhere from two to 10 people. Phytoplankton in the ocean are more prolific, providing half of Earth's oxygen, but forests are still a key source of quality air.



### 2. They're more than just trees.

Nearly half of Earth's known species live in forests, including 80% of biodiversity on land. That variety is especially rich in tropical rainforests, but forests teem with life around the planet: Insects and worms work nutrients into soil, bees and birds spread pollen and seeds, and keystone species like wolves and big cats keep hungry herbivores in check. Biodiversity is a big deal, both for ecosystems and human economies, yet it's increasingly threatened around the world by deforestation.



### 3. People live there, too.

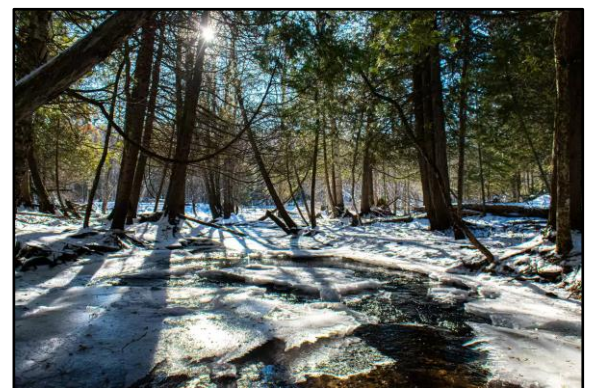
Some 300 million people live in forests worldwide, including an estimated 60 million indigenous people whose survival depends almost entirely on native woodlands. Many millions more live along or near forest fringes, but even just a scattering of urban trees can raise property values and reduce crime, among other benefits.

### 4. They keep us cool.

By growing a canopy to hog sunlight, trees also create vital oases of shade on the ground. Urban trees help buildings stay cool, reducing the need for electric fans or air conditioners, while large forests can tackle daunting tasks like curbing a city's "heat island" effect or regulating regional temperatures.

### 5. They keep Earth cool.

Trees also have another way to beat the heat: absorb CO<sub>2</sub> that fuels global warming. Plants always need some CO<sub>2</sub> for photosynthesis, but Earth's air is now so thick with extra emissions that forests fight global warming just by breathing. CO<sub>2</sub> is stored in wood, leaves and soil, often for centuries.



### 6. They make it rain.

Large forests can influence regional weather patterns and even create their own microclimates. The Amazon rainforest, for example, generates atmospheric conditions that not only promote regular rainfall there and in nearby farmland, but potentially as far away as the Great Plains of North America.

### 7. They fight flooding.

Tree roots are key allies in heavy rain, especially for low-lying areas like river plains. They help the ground absorb more of a flash flood, reducing soil loss and property damage by slowing the flow.

### 8. They pay it forward.

On top of flood control, soaking up surface runoff also protects ecosystems downstream. Modern stormwater increasingly carries toxic chemicals,

*Continued on page 3*





## Trees, continued from page 2

from gasoline and lawn fertilizer to pesticides and pig manure, that accumulate through watersheds and eventually create low-oxygen "dead zones."

### 9. They refill aquifers.

Forests are like giant sponges, catching runoff rather than letting it roll across the surface, but they can't absorb all of it. Water that gets past their roots trickles down into aquifers, replenishing groundwater supplies that are important for drinking, sanitation and irrigation around the world.



### 10. They block wind.

Farming near a forest has lots of benefits, like bats and songbirds that eat insects or owls and foxes that eat rats. But groups of trees can also serve as a windbreak, providing a buffer for wind-sensitive crops. And beyond protecting those plants, less wind also makes it easier for bees to pollinate them.

### 11. They keep dirt in its place.

A forest's root network stabilizes huge amounts of soil, bracing the entire ecosystem's foundation against erosion by wind or water. Not only does deforestation disrupt all that, but the ensuing soil erosion can trigger new, life-threatening problems like landslides and dust storms.



### 12. They clean up dirty soil.

In addition to holding soil in place, forests may also use phytoremediation to clean out certain pollutants. Trees can either sequester the toxins away or degrade them to be less dangerous. This is a helpful skill, letting trees absorb sewage overflows, roadside spills or contaminated runoff.

### 13. They clean up dirty air.

We herald houseplants for purifying the air, but don't forget forests. They can clean up air pollution on a much larger scale, and not just CO<sub>2</sub>. Trees absorb a wide range of airborne pollutants, including carbon monoxide, sulfur dioxide and nitrogen dioxide. In the U.S. alone, urban trees are estimated to save 850 lives per year and \$6.8 billion in total health care costs just by removing pollutants from the air.

### 14. They muffle noise pollution.

Sound fades in forests, making trees a popular natural noise barrier. The muffling effect is largely due to rustling leaves - plus other woodland white noise, like bird songs - and just a few well-placed trees can cut background sound by 5 to 10 decibels, or about 50% as heard by human ears.

### 15. They feed us.

Not only do trees produce fruits, nuts, seeds and sap, but they also enable a cornucopia near the

forest floor, from edible mushrooms, berries and beetles to larger game like deer, turkeys, rabbits and fish.



### 16. They heal us.

Forests give us many natural medications, and increasingly inspire synthetic spin-offs. The asthma drug theophylline comes from cacao trees, for one, while a compound in eastern red cedar needles fights drug-resistant bacteria. About 70% of known plants with cancer-fighting properties occur only in rainforests, yet fewer than 1% of tropical rainforest plants have been tested for medicinal effects. Even just walking in the woods can offer health benefits, too, including stress relief, reduced blood pressure and a stronger immune system. The latter may be partly due to trees releasing airborne compounds called *phytoncides*, which prompt our bodies to boost the natural killer (NK) cells that attack infections and guard against tumors.



### 17. They help us make things.

Where would humans be without timber and resin? We've long used these renewable resources to make everything from paper and furniture to homes and clothing, but we also have a history of getting carried away, leading to overuse and deforestation. Thanks to the growth of tree farming and sustainable forestry, though, it's becoming easier to find responsibly sourced tree products.



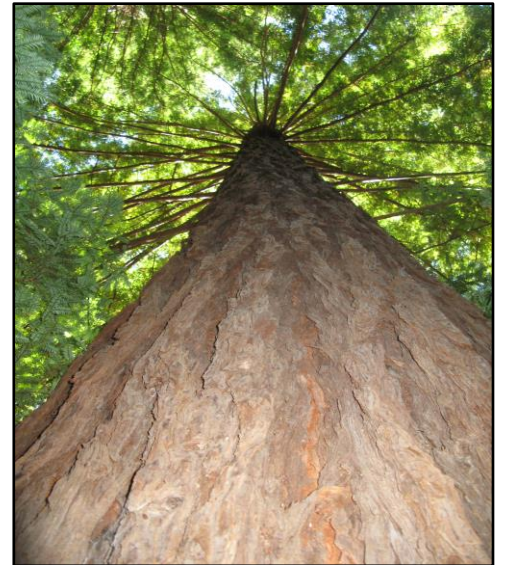
### 18. They create jobs.

More than 1.6 billion people rely on forests to some extent for their livelihoods, according to the U.N., and 10 million are directly employed in forest management or conservation. Forests contribute about 1% of the global gross domestic product through timber production and non-timber products, the latter of which alone support up to 80% of the population in many developing countries.



### 19. They create majesty.

Natural beauty may be the most obvious and yet least tangible benefit a forest offers. The abstract blend of shade, greenery, activity and tranquility can yield concrete advantages for people, however, like convincing us to appreciate and preserve old-growth forests for future generations.



### 20. They help us explore and relax.

Our innate attraction to forests, part of a phenomenon known as *biophilia*, is still in the relatively early stages of scientific explanation. We know biophilia draws us to woods and other natural scenery, though, encouraging us to rejuvenate ourselves by exploring, wandering or just unwinding in the wilderness. They give us a sense of mystery and wonder, evoking the kinds of wild frontiers that molded our distant ancestors. And thanks to our growing awareness that spending time in forests is good for our health, many people now seek out those benefits with the Japanese practice of *shinrin-yoku*, commonly translated to English as "forest bathing."



### 21. They're pillars of their communities.

Like the famous rug in "The Big Lebowski," forests really tie everything together - and we often don't appreciate them until they're gone. Beyond all their specific ecological perks, they've reigned for eons as Earth's most successful setting for life on land. Our species probably couldn't live without them, but it's up to us to make sure we never have to try. The more we enjoy and understand forests, the less likely we are to miss them for the trees.

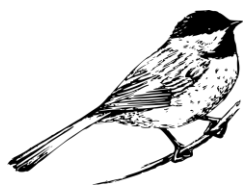


## Northwoods Journal Online

Would you like to read current issues of the *Northwoods Journal* online? Go to [www.marinettecounty.com](http://www.marinettecounty.com) and search for "Northwoods Journal". We can also send you an e-mail reminder when each new issue is posted online. Contact Anne Bartels, Information & Education Specialist at 715-732-7784 or email [abartels@marinettecounty.com](mailto:abartels@marinettecounty.com).







## How to Make Suet Winter Bird Feeders

<https://inhabitat.com/diy-suet-winter-birdfeeders/>



Bird feed is all well and good, but sometimes you want to give the backyard birds a different treat or attract a type of bird to your feeder. Enter suet. Particularly good for birds in the fall and winter, suet is a high-calorie source of food that's easy to make yourself, and your birds will appreciate the additional energy it provides.

Suet is basically just raw fat in beef or lamb found around the loin or kidneys. It's a common ingredient in a number of British dishes, particularly puddings. (And don't worry, we provide a recipe option that doesn't use this ingredient.) Suet is also super-safe for birds. In fact, most forms of animal fats are easily digested by birds. As a result, you could just toss a block of suet, commonly sold as suet cakes, into a caged feeder and call it a day.

Why just do the bare minimum, though? Since it's a fat and can be melted, suet can incorporate a range of other ingredients birds love, including peanuts, dried fruits and, if you really want to treat them, dried insects.

A variety of ingredients can attract different birds, too, so that's all the more reason to make your own suet cakes. Birds that are attracted to suet include chickadees, tits, wrens, woodpeckers, large passerines and jays. The species that visit will depend on the type of suet you use, the type of feeder and what other food is readily available.



### What you'll need:

- Rendered suet, tallow, or lard, at room temperature (most supermarkets carry it, or you can ask a local butcher for some)
- A bag of mixed wild bird seed (make sure it's a safe brand!)
- A bag of raw sunflower seeds (also for wild birds)
- Chopped dried apples, blueberries, cranberries
- Chopped peanuts (unsalted and raw)
- Plastic containers (like for cream cheese or dips)
- Halved coconut shells or orange peels (if filling them as feeders)
- A large bowl
- Spoons (wooden and metal)
- Thick cotton or hemp twine

Poke or melt holes through the bottoms of your plastic containers, and thread about 4 inches worth of twine through each hole. For each one, make a sturdy knot (tied 2-3 times), and on the outside of the container, allow another 2 feet of twine to hang freely - this will be the hanger for your suet snack, while the knotted bit is the anchor within the center of it.

Heat the suet gently in a saucepan until it's all melted. In the large bowl, combine the various seeds and dried fruit, and then pour the melted fat into the seed mixture. Use your wooden spoon to stir this around until it's mixed together thoroughly, and then use a combination of metal and wooden spoons to dole it out evenly into the containers.

Once they've all been filled, leave them to cool and harden up for a couple of hours. If you have more suet-seed mix than you need, pour that into a freezer-safe container and keep it frozen so you can use it for another batch in the future.

When the mixture has solidified, you can either cut the container away from it to free it, or try to pop the disc out by immersing the plastic in hot water so the edges of the suet ring melt a little - this makes it easier to slide out.



As alternatives to free-form "puck"-style snacks, you can pack this mixture into hollowed-out coconut shells, or spread it thickly onto large pine cones to be hung from branches as well. Hang your feeders in shady spots from sturdy tree branches, and prepare to make many little hearts flutter happily as neighborhood birds come to peck away at the gift you've given them.



**\*Note:** If you already have metal cage suet-feeders, you can just use a baking sheet lined with parchment paper as your mold, and then cut squares out of the hardened suet mixture to fit inside the cage.

Fresh drinking water for wild birds is just as important as food, so setting out a bowl of water is a good idea too - just keep an eye on it so you can replace it if and when it freezes solid. You can also look into getting a heated birdbath - there are many varieties available, from pedestal-type to railing mounted baths (below).



Other information for this article from <https://www.treehugger.com/easy-homemade-suet-cakes-your-backyard-birds-4862235>.

## Bipartisan Support for America's Conservation Enhancement Act



On October 1, the U.S. House of Representatives passed the America's Conservation Enhancement (ACE) Act (S. 3051) by voice vote under suspension of the rules. The bill, which passed the Senate on September 16, *brings together eight bills introduced in either the House or the Senate or both that reauthorize a number of key conservation programs* as well as create new authorization for a chronic wasting disease task force and for national fish habitat partnerships.

The bill, led by Senate Environment and Public Works Committee Chairman Senator John Barrasso (R-WY) and Ranking Member Senator Tom Carper (D-DE), had strong support across the conservation community and marks one more success for conservation legislation enacted during the 116th Congress.

### Among its provisions, the ACE Act will:

- ✓ Reauthorize the North American Wetlands Conservation Act until 2025
- ✓ Reauthorize the National Fish and Wildlife Foundation Act until 2025
- ✓ Reauthorize the Chesapeake Bay Program until 2025
- ✓ Reauthorize the Chesapeake Bay Gateways and Watertrails network and the Chesapeake Bay Gateways Grants Assistance Program until 2025
- ✓ Authorize the Chesapeake Watershed Investments for Landscape Defense Program until 2025
- ✓ Commission a study by the National Academy of Sciences regarding the pathways and mechanisms of the transmission of chronic wasting disease in the United States
- ✓ Establish a CWD task force to develop an interstate action plan for state and federal cooperation relating to the disease
- ✓ Authorize funds to combat the threat of invasive species
- ✓ Encourage partnerships among public agencies and other interested parties for promoting fish conservation.

"Passage of the ACE Act will not only benefit deer, ducks, fish, and our water quality, but it will also create jobs in conservation and help to enhance outdoor recreation opportunities for millions of Americans just when we need it most," said Whit Fosburgh, president and CEO of the Theodore Roosevelt Conservation Partnership.

"America's Conservation Enhancement Act builds on state and stakeholder commitments to restore wetlands and improve water quality by reauthorizing effective programs like the North American Wetlands Conservation Fund and the Chesapeake Bay Program," said Senator Carper. "While helping to protect and restore important habitats, the conservation efforts supported by the ACE Act also help to fuel multibillion-dollar fishing and ecotourism industries. The ACE Act will also help to drive the development of new and innovative solutions for growing threats like invasive species and wildlife disease - threats we know will only become more challenging with our changing climate." President Trump is expected to sign the bill into law when it is sent to his office.

### Excerpts from:

- <https://wildlifemanagement.institute/outdoor-news-bulletin/october-2020/house-passes-ace-act-paving-way-enactment>
- <https://www.thewellnews.com/environment/conservation-enhancement-act-set-to-be-signed-into-law/>





## Meteor Showers in November

<https://earthsky.org/astronomy-essentials/earthskys-meteor-shower-guide#leonids>

Look up in November's night sky! You may see the moon, stars, satellites, planets, and meteors! Here are some meteor showers coming up that you may want to look for as the nights get crisper and clearer. Grab a mug of hot chocolate, a blanket, some warm clothes and lay outside and do some stargazing!



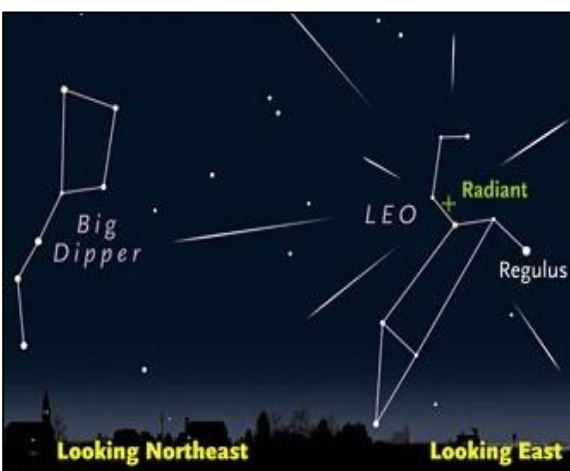
### Late night Nov. 11 until dawn, Nov. 12 - the North Taurids

The North Taurids meteor shower is long-lasting (October 12 – December 2) but modest, and the peak number is forecast at about five meteors per hour. Typically, you see the maximum numbers at around midnight, when Taurus the Bull is highest in the sky. Taurid meteors tend to be slow-moving, but sometimes very bright. *In 2020, the slender waning crescent moon – rising in the wee hours before dawn – won't seriously intrude on the peak night of November 11 (morning of November 12).*

### November 17, 2020, before dawn, the Leonids

Radiating from the constellation Leo the Lion, the famous Leonid meteor shower has produced some of the greatest meteor storms in history – at least one in living memory, 1966 – with rates as high as thousands of meteors per minute during a span of 15 minutes on the morning of November 17, 1966. Indeed, on that beautiful night in 1966, the meteors did, briefly, fall like rain.

Some who witnessed the 1966 Leonid meteor storm said they felt as if they needed to grip the ground, so strong was the impression of Earth plowing along through space, fording the meteoroid stream. The meteors, after all, were all streaming from a single point in the sky – the radiant point – in this case in the constellation Leo the Lion (below at right).



Leonid meteor storms sometimes recur in cycles of 33 to 34 years, but the Leonids around the turn of the century – while wonderful for many observers – did not match the shower of 1966. And, in most years, the Lion whimpers rather than roars, producing a maximum of perhaps 10-15 meteors per hour on a dark night. Like many meteor showers, the Leonids ordinarily pick up steam after midnight and display the greatest meteor numbers just before dawn, for all points on the globe.

In 2020, the moon will display a waxing crescent phase, and set at early evening, to provide moon-free skies nearly all night long. *The expected peak night is from late night November 16 till dawn November 17.* The Leonids tend to produce the most meteors in the predawn hours, at which time the moon will be long gone.

### Leonids of 1833 – the start of modern meteor science

<https://www.pigeonroost.net/the-great-meteor-storm-of-1833/>

On the night of November 13, 1833, a young Illinois man was awakened by an urgent rap on the door. A Presbyterian Deacon was issuing warnings to his neighbors that the day of judgement had arrived. The young man walked outside to see hundreds of falling stars in the sky. Noting that the constellations were in their usual spots, Abraham Lincoln concluded correctly that this was an unusually intense meteor storm and not the end of the world. This scene was repeated across North America as many resorted to the biblical interpretation of what was happening. When the Sun rose the following morning, a shaken populace realized life would go on as normal. This meteor storm would begin our modern understanding of the science behind these events.



The world of 1833 was one without electric lights and the Moon had set in the early evening giving North America an unobstructed view of one of the great astronomical events in modern times. The Leonids, an annual meteor shower that yields about a dozen meteors per hour, generated tens of thousands of meteors per hour in 1833. Prior to this event, meteors were thought to be an atmospheric phenomena. The word *meteor* is derived from Greek as meaning 'high in the sky' and of course, is also the basis for the word *meteorology*. Some good old-fashioned detective work by Denison Olmsted kick-started the modern science of meteors.

For billions of years, the comet Tempel-Tuttle has been orbiting the Sun. Every thirty three years or so, the Earth passes through the densest section of the tail of Tempel-Tuttle. Although the number of visible meteors currently is substantially lower than in 1833, the resulting meteor shower, called the Leonids, comes to a peak on November 17 of each year.

### Tips for observing the night sky

When observing the night sky, it's best to watch from a dark location. Avoid direct light from homes, street lights, and other sources. If possible, observe from a dark location away from the light pollution that surrounds cities and towns. You will see more stars after your eyes adapt to the dark – about 10-20 minutes after you go outside. Also if you need to use a flashlight, cover it with red cellophane or use a red-tinted flashlight/lens. This will preserve your night vision. Finally, even though the moon is one of the most stunning objects to view through binoculars or a telescope, its light is so bright that it brightens the sky and makes many fainter objects hard to see. So try to observe the sky on moonless nights around the New moon or last quarter.

For more information about meteors, visit:

- ✓ <https://www.amsmeteors.org/> - American Meteor Society
- ✓ <https://solarsystem.nasa.gov/asteroids-comets-and-meteors/> - NASA
- ✓ <https://www.rmg.co.uk/discover/explore/leonid-meteor-shower-when-and-where-see-it-uk> - Royal Museums Greenwich (UK)
- ✓ <https://www.space.com/33974-best-night-sky-events.html>
- ✓ <http://dublinlaurenscountygeorgia.blogspot.com/2012/11/the-night-stars-fell.html>

## Pollinator Invitation Gardens 2020 – Autumn Photos

As fall continues, the pollinator gardens installed this summer start their dormancy period for winter. Here are a few more photos from early fall visits. In spring 2021, all the gardens will be re-visited to check on how they overwintered.



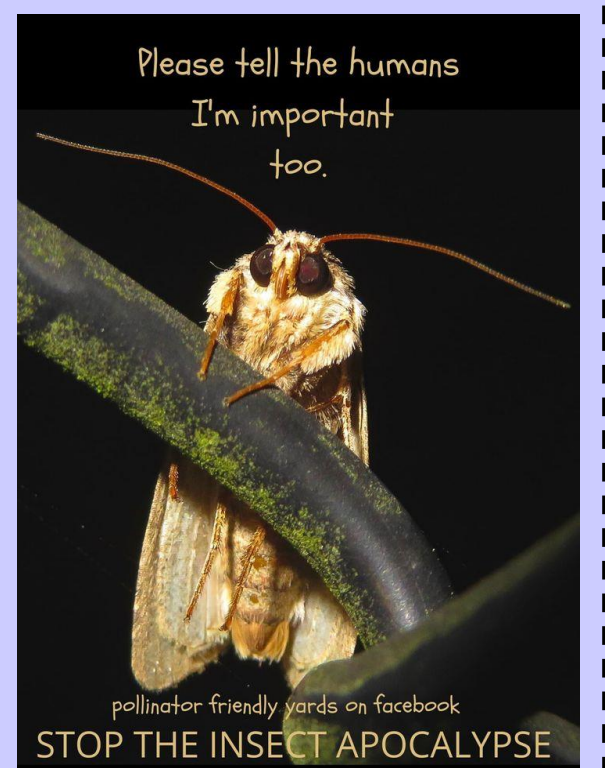
This garden was installed in late August, so the plants put all their energy into rooting, not flowering. Picture taken on October 21.



This prairie smoke plant is one of about 20 plants in the Marinette REC Center pollinator garden. This was taken on October 27.



At the UW campus in Marinette, this pollinator garden is still showing some blooms on October 28. The purple flowers are New England Asters and the yellow ones in back and at right are Black-eyed Susans.



Please tell the humans  
I'm important  
too.

pollinator friendly yards on facebook

**STOP THE INSECT APOCALYPSE**

We all need insects for healthy ecosystems. Read more about how you can help at <https://www.anthropocenemagazine.org/2020/02/how-to-avoid-the-insect-apocalypse/>.





## Looking for virtual field trips, videos, & educational resources for your family or classroom this winter?



Have fun safely 'traveling' to other places virtually this winter with your family and friends! Here are some websites to explore during the colder winter months as you spend more time inside. Virtual tours/trips, educational videos, webinars, and more!

- <https://www.nwf.org/events> - National Wildlife Federation - events/recorded webinars
- <https://www.worldwildlife.org/> - World Wildlife Fund educational resources - search for "Wild Classroom"
- <https://www.nationalgeographic.org/education/> - National Geographic educational resources
- <https://naturalhistory.si.edu/visit/virtual-tour> - Smithsonian Natural History Museum
- <https://www.nature.org/en-us/about-us/who-we-are/how-we-work/youth-engagement/nature-lab/virtual-field-trips/> - The Nature Conservancy
- <https://www.whoi.edu/what-we-do/educate/k-12-students-and-teachers/> - Woods Hole Oceanographic Institute
- <https://www.earthecho.org/educator-resources> - webinars, resources, etc.
- <https://www.eekwi.org/> - WI Environmental Education for Kids
- <https://www.michigan.gov/dnr/> - MI DNR - search for "Nature at Home/School" for education resources



Virtual tours and videos of U.S. national parks, world heritage sites, museums, historic sites, & natural landscapes:

- ✓ <https://www.treehugger.com/national-parks-virtual-tours-4865288>
- ✓ <https://earth.google.com/> search for UNESCO World Heritage sites, U.S. National Parks, and more!
- ✓ <https://www.goodhousekeeping.com/life/travel/a31784720/best-virtual-tours/> - museums, zoos, & parks (includes parts of the Louvre and other world-famous places!)
- ✓ <https://artsandculture.google.com/partner?hl=en>
- ✓ <https://www.smartertravel.com/virtual-tours-live-streams/>
- ✓ <https://govalleykids.com/virtual-field-trips/> - includes a link to view the Titanic, the Grand Canyon, and Mars!

Space-related sites:

- <https://exoplanets.nasa.gov/interactable/1/index.html>
- [https://www.nasa.gov/mission\\_pages/station/main/sun\\_i\\_ss\\_tour.html?mod=article\\_inline](https://www.nasa.gov/mission_pages/station/main/sun_i_ss_tour.html?mod=article_inline) - International Space Station
- <https://accessmars.withgoogle.com/>



## Every Kid Outdoors Program Allows U.S. Fourth Graders to Visit America's Natural Wonders and Historic Sites for Free!

<https://everykidoutdoors.gov/index.htm>



**Attention all American 4<sup>th</sup> Graders!** Did you know you can earn a free pass to explore thousands of America's federal lands and waters with your family and friends?

**Parents and educators**, your 4th grader can take you to some amazing urban places and outdoor spaces. The *Every Kid Outdoors* program is a federal public lands partnership created to inspire U.S. 4th graders and their families to recreate, explore cultures, discover connections to nature, and spark a lifelong passion for America's great outdoors.

Download your free *Every Kid Outdoors* pass at <https://everykidoutdoors.gov/index.htm>. The *Every Kid Outdoors* program provides free access to federal lands and waters for approximately 4 million fourth grade students and their families.



The Forest Service *Every Kid Outdoors* program is part of an interagency effort that includes the U.S. Department of the Interior's National Park Service, the Bureau of Land Management, the Bureau of Reclamation, and the U.S. Fish and Wildlife Service; the U.S. Army Corps of Engineers; National Oceanic and Atmospheric Administration and the U.S. Department of Education.

As part of this program, Forest Service field units offer family fishing days, freshwater snorkeling, hikes, forestry programs including a free holiday tree cutting permit to *Every Kid Outdoors* pass holders, junior ranger activities and many other nature based adventures.

For more information please visit <https://everykidoutdoors.gov/index.htm>. The Forest Service is also expanding partnerships with military families through *Every Kid Outdoors*.



### Frequently Asked Questions

**Q.** How can U.S. 4th graders, including home-schooled and free-choice learners 10 years of age get a voucher or pass?

**UPDATE: FOR 5<sup>th</sup> GRADERS** - Many 4th graders missed out on using their Every Kid Outdoors Annual 4th Grade Pass during the 2019-2020 school year. **A new voucher is now available for 5th grade students for the rest of the 2020-2021 school year!**

On October 28, U.S. Secretary of the Interior David Bernhardt signed an order that waives entrance fees to national parks, wildlife refuges and other public lands and waters managed by the Department of the Interior for fifth-grade students and their families starting Wednesday and going through Aug. 31, 2021.

<https://www.nps.gov/kids/fifthgrade.htm>

According to a release, American fifth-grade students who may have been unable to make full use of the Every Kid Outdoors Annual Fourth-Grade Pass during the 2019-2020 academic year due to the COVID-19 pandemic will have free access to national parks and other federal lands managed by the department this academic year.

**A.** Visit [www.everykidoutdoors.gov](http://www.everykidoutdoors.gov), complete an online activity, download and print a personalized voucher to exchange at a participating site.

**Q.** What is the voucher or pass valid for?

**A.** The 4th Grade Pass covers entrance or standard amenity day use fees at Bureau of Land Management, U.S. Fish and Wildlife Service, National Park Service, Bureau of Reclamation, National Oceanic and Atmospheric Administration, U.S. Forest Service, and U.S. Army Corps of Engineers sites. Some fees, like camping and special tours are not covered. And, private businesses who manage some facilities may not honor the pass.

**Q.** How long can I use the pass?

**A.** The pass is valid beginning September 1 and ending August 31 of the student's 4th grade year.

**Q.** Will a single voucher or pass allow entry for more than one vehicle?

**A.** No. Only the vehicle with the pass owner can enter for free.

**Q.** Can a pass owner on a bicycle enter for free with accompanying family or friends on bicycles?

**A.** Yes. The pass owner and up to three accompanying adult bicyclists can enter free at participating sites.

**Q.** What if there isn't anyone to show my 4th Grade Pass to when we arrive?

**A.** Display your pass or voucher on the vehicle dashboard or the pass from a hang tag on the rear view mirror. Remember, the 4th grader must be present for the pass to be honored.

**Q.** Can a lost or stolen voucher or pass be replaced?

**A.** No, sites will not replace lost or stolen vouchers and passes. If the 4th grader revisits the [www.everykidoutdoors.gov](http://www.everykidoutdoors.gov) website and completes another online game and prints a new paper voucher, she/he can exchange it for a new pass the next time she/he visits a participating site.

**Q.** If I forget my voucher or pass and pay the entrance or use fee can I get a refund?

**A.** No, refunds are not issued.

**Q.** Can I loan my paper voucher or 4th Grade Pass to a friend or family member to use?

**A.** No, passes are not transferable. The 4th grade student is the pass owner and must be present when the pass is used.





## 8 Ways to Get Through the Upcoming Winter Months

<https://www.treehugger.com/ways-to-get-through-winter-months-5082310>



How do you "keep the summer vibe lasting through the darkness of winter?" The question is more relevant than ever these days, after people have spent months in lockdown and socially-distant arrangements and are tired of feeling alone before they've even begun slogging through winter. You need more than just a positive mindset; you need actual things to do.

### 1. Learn to Love the Cold Weather

This is crucial. As long as you keep telling yourself that you miss the glorious summer heat and dislike the cold, you're reinforcing your own misery. Reframe it by using different language. Figure out what you can do that's fun in the late fall and winter, and then embrace those activities. Take up cross-country skiing, snowboarding, snowshoeing, hiking or winter mountain (fat-tire) biking.

If it's sunny, bundle up and sit outside on your deck or front yard in a chair. Read a book, drink your coffee or cocoa, do the same kinds of things you'd do on a warm sunny day - it will still leave you feeling great.



### 2. Buy the Right Clothing

Feeling cold is always unpleasant. Buy good-quality insulated gear (coat, gloves, boots, hat, and possibly pants) that will make spending time outside more pleasant. It'll make you want to go outside – if for no other reason than you spent money on it and want to get some use out of it! If you have children, outfit them properly so you can go out as a family each day. And always dry your gear after wearing so it's ready to go for the next outing.



### 3. Stay Active

You have to find something to do that will get you off the couch and out of the house. Staying active will improve your physical health and mental resilience. Try a walking/running app that encourages you to keep an exercise schedule. Work out at home - do yoga, chop wood, play in the snow – anything that keeps you active. View the winter months as hard-training time at the gym or at home, since your schedule isn't being derailed by afternoons at the beach and spontaneous get-togethers with friends. Summer is when you reap the benefits of the hard work you put in during the winter.



### 4. Take Vitamin D

Check with your doctor first before taking a supplement, but many people feel that their mood and quality of life improves with a daily vitamin D supplement. In reference to skin cancer rates being twice as high in the northeastern U.S. as they are in the Southwest, an article in the medical journal *Cancer* stated, "Many lives could be extended through increased careful exposure to solar UV-B radiation and more safely, vitamin D3 supplementation, especially in non[-]summer months."

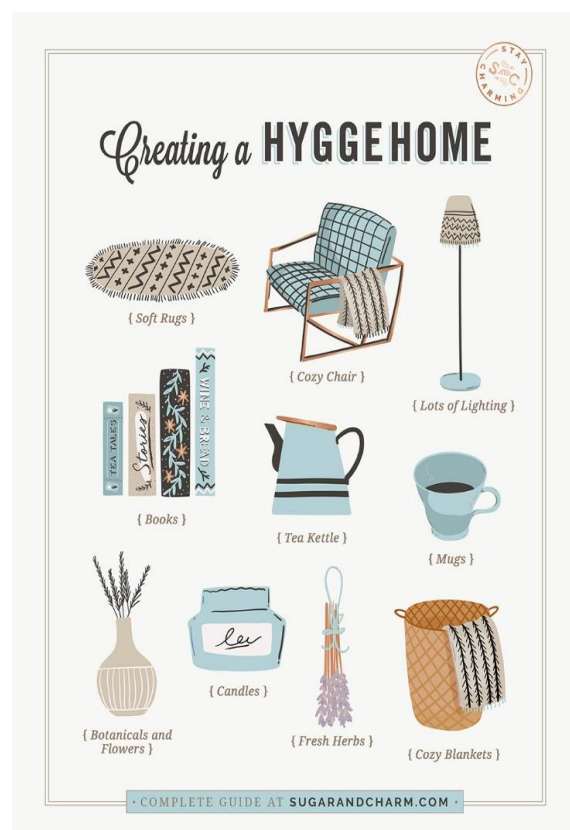
### 5. Surround Yourself with Plants

Having lush, green life around you during the winter months can be a real mood-booster. Make sure your plants are getting adequate light themselves (put them as close to a window as possible) and take care of them; the act of gardening itself is therapeutic.



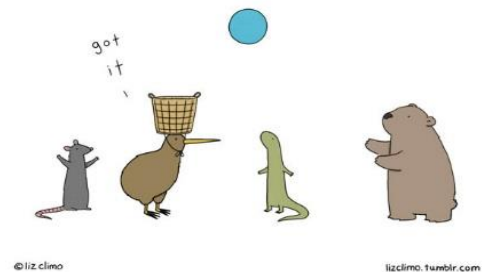
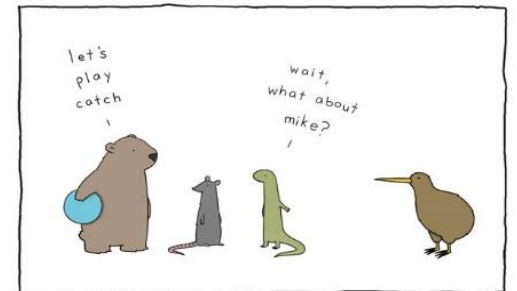
### 6. Create a Cozy Interior

Make the inside of your home welcoming so it's a place you want to snuggle up and hang out without feeling trapped. Have some warm reading lamps, easily accessible blankets, a soft couch, and if you're lucky, a fireplace. Add a few good books, a bowl of popcorn, and a movie, and you've pretty much described a perfect winter weekend. Buy bubble bath for your tub, add soft pillows to your bed, and splurge on cozy slippers. String up twinkly lights around the inside of your window frames. To the Danish, this concept is called 'hygge' – "a quality of coziness and comfortable conviviality that engenders a feeling of contentment or well-being" (this is regarded as a defining characteristic of Danish culture).



### 7. Reach Out to Friends

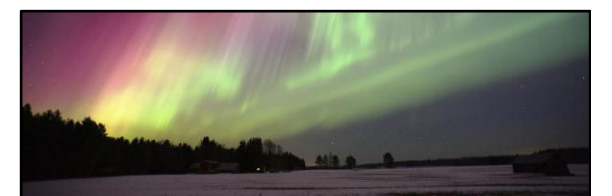
A sense of community makes everything easier to handle. Although it's more challenging during COVID times, establish a friend bubble that you can see regularly and safely, and come up with a list of winter activities that you can do together – perhaps hiking every weekend, having backyard campfires, playing board games, or cooking together.



### 8. Find the Awe

As part of his personal winter survival program in the northern Canadian city of Winnipeg, writer David Cain says he plans to take a lot of walks. These expose him to nature, which in turn fills him with the emotion of awe. Cain writes, "It does make sense that feeling the vast scale and mystery of nature's processes might make the human brain less consumed by worries about housing markets and doctor's appointments."

As neurology and psychiatry professor Virginia Sturm recently told *Treehugger* about a study she led, awe is "a positive emotion that we experience in response to perceptual vastness – when we encounter something we cannot immediately understand." It has been linked to reduced self-preoccupation, improved connection with others, and greater pro-social behavior. Try to find some awe in each day of this long, dark winter, or at the very least, identify aspects of these upcoming under-appreciated seasons that are unique and worthy of admiration.



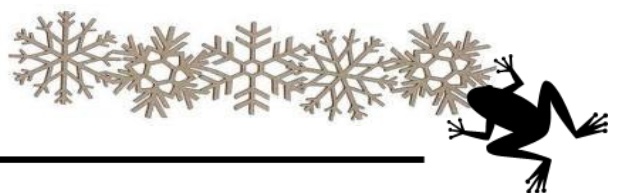
### And... Six Reasons to Get Outside in Winter!

<https://www.treehugger.com/reasons-get-outside-even-cold-4859066>

Daily exercise is important no matter what time of year it is, but in the winter it's especially hard to stay motivated. When temperatures drop, it's far less comfortable outside, not to mention the hassle of all of the extra layers. The excuses are easy to come by when it's frigid and staying inside where it's warm is very appealing, but research shows that the extra hassle is worth it, not just because exercise is essential for good health, but because getting outside and moving in the winter is actually extra beneficial for both adults and kids.

From improving your mood to burning more calories than exercising in other seasons, winter exercise brings a host of benefits.

1. Exercise is more effective.
2. Keep the winter blues away.
3. Stave off colds and the flu.
4. More energy & better sleep.
5. Improve memory & attention.
6. Improve balance & build muscle.





## Help Our Native Wildlife in Winter and Build a Hibernaculum!

<https://content.yardmap.org/learn/hibernaculum/>



*Hibernaculum* in its Latin roots means, “winter quarter”, with *hibernus* being Latin for winter. Thus, hibernacula are places of refuge that creatures seek-out in cold climates during winter when resources are limited and temperatures are frigid. As you may have guessed, it shares its origins with the verb *hibernate*, which describes the behavior of small mammals that spend winter months in small, protective dwellings due to the physiological shifts they experience for cold-weather survival.

True hibernation requires an organism to lower its body temperature to near freezing and slow its heart rate from a beat that is in the +100s to a rate as low as four beats per minute. This allows mammalian metabolism to slow down and conserve energy reserves. Small mammals will consume small amounts of stored food during their hibernation while larger mammals, like bears, will abstain from food entirely and live only on their fat reserves.



Arctic ground squirrel hibernating

Scientists banter over the semantics of whether animals such as reptiles, amphibians, and larger mammals technically go into “dormancy,” “brumate,” “experience winter lethargy,” or “hibernate”. Most have accepted the general use of the term “hibernate” to describe any changes in behavior, or physiology, made by animals in colder, northern climates during winter months. This often entails burrowing into some structure to conserve energy until food availability and temperatures increase in the spring.

Hibernating animals will use caves, old earthen burrows made by other animals, deep rock crevices, open space under houses, attics, tree cavities, fallen logs, and stone walls. The depth and size requirements of the space they overwinter in depends on the organism and whether they are solitary or communal hibernators.

Reptiles and amphibians are ectotherms, which means they are unable to regulate their body temperatures. This makes burrowing into hibernaculum structures an important survival strategy in winter conditions.

The availability of sufficient hibernacula is increasingly threatened as land is cleared and converted to urban and suburban developments.



A group of researchers in New Jersey tracked threatened Pine snakes’ (*Pituophis melanoleucus*) use of hibernacula for 26 years to discover patterns in habitation. They found that each year fewer and fewer hibernacula were available for hibernating snakes, mostly due to environmental pressures such as development, habitat loss, and fragmentation. They also found that snakes would regularly return to the same hibernaculum each season, seeking familiar places of refuge. One could speculate that over time, with fewer of these legacy hibernacula, populations of reptiles like these could suffer.

If you are a homeowner in a colder climate, you can support wildlife in your yard by building and maintaining a hibernaculum. These small caves can be used by a variety of small animals seeking shelter to ride-out the winter months; but, may be especially important for snakes and lizards.



Snakes, lizards, and other reptiles are ecologically important animals that are often misunderstood and underappreciated. Though some homeowners may balk at the idea of using their yards as habitat for snakes, the vast majority of snakes found in northern latitudes are non-venomous and help keep populations of mice and other small mammals in check. Snakes are also an important food source for many beloved birds-of-prey, such as red-tailed hawks.



These are a fun and out-of-the-ordinary feature to add to your habitat map. Install one and you may eventually be rewarded with some interesting hibernating visitors on your property. Just remember, it takes wildlife time to discover new habitat and put it to regular use, so don’t be disappointed if your new feature goes unused at first.



Go to this [Toronto Zoo](https://www.torontozoo.com/conservation/hibernacula/) link where you’ll find a nice step-by-step guide on building a reptile hibernaculum. Here are some other links for different types of hibernacula:

- <https://www.shropshirewildlifetrust.org.uk/sites/default/files/2020-03/HIBERNACULUM.jpg>
- <https://www.gardenersworld.com/how-to/diy/make-a-hibernaculum-for-frogs/>
- <https://www.youtube.com/watch?v=gcvA21-xs3A> – video demonstration
- <https://www.pitchcare.com/news-media/creating-a-hibernaculum.html>



Here are links to ‘Insect Hotels’ to benefit pollinators and other beneficial bugs (also see page 11):

- 🐞 [https://www.canr.msu.edu/news/invite\\_pollinators\\_to\\_your\\_garden\\_by\\_creating\\_a\\_smart\\_habitat](https://www.canr.msu.edu/news/invite_pollinators_to_your_garden_by_creating_a_smart_habitat)
- 🐞 <https://www.pacifichorticulture.org/articles/insect-hotels/>
- 🐞 <https://gardentherapy.ca/build-a-bug-hotel/>
- 🐞 <https://durham.ces.ncsu.edu/2020/03/welcome-pollinators-with-a-bug-hotel/>



Insect hotel built with logs, wood pallets, natural materials like bark and tree stems, and old plant pots

For more about winter hibernation, visit:

- ✓ <https://www.nwf.org/Magazines/National-Wildlife/2014/DecJan/Animals/Hibernation>
- ✓ <https://www.nationalgeographic.com/news/2017/10/animals-hibernation-science-nature-biology-sleep/>
- ✓ <https://www.eekwi.org/explore/seasonal-observations/snug-snow>
- ✓ <https://starjournalnow.com/2018/01/12/when-black-bears-hibernate/>
- ✓ [https://media.uaf.edu/media/t/0\\_xqxqgth9](https://media.uaf.edu/media/t/0_xqxqgth9) University of Alaska video about arctic ground squirrel hibernation

**See page 11 for more ideas!**





## This Winter, Plan a Healthier & More Diverse Yard for 2021!

<https://www.healthyyards.org/> & <https://content.yardmap.org/learn/removing-lawn-to-make-way-for-more-habitat/>

Who doesn't love a beautiful environment? Yet, without meaning to, many of us have adopted landscaping habits that are harmful to our environment and our health. Luckily it isn't hard to change to healthier landscaping practices. Changing your yard practices might be the easiest way to fight climate change and support your local ecosystem.



### Do you have a healthy yard?

**Mow high and water less** - mowing grass to about 4" helps shade out weeds and encourages roots grow longer; this helps the lawn tolerate heat better and require less watering.

**Go electric** - switch to electric or battery powered yard equipment. It's cleaner, less polluting, quieter and is better for your health as well as the planet's.

**Don't use artificial pesticides or herbicides** - save the natural ecology of the soil and the quality of our drinking water by using only natural amendments. For the safest protection against ticks, use tick bait boxes and check yourself.

**Don't use artificial fertilizers** - runoff from chemical fertilizers causes great harm to our streams and ponds. Native plants, shrubs and trees don't need fertilizers.

**Mulch grass and leaves** - leaf blowers damage our yards and our health. Leave grass clippings on the lawn and attach a leaf mulching blade to your existing mower in the fall to mulch leaves into the lawn.

**Choose sustainable plants** - Pollinators and birds rely on native plants to raise their young. Plant native perennials also for better drainage, erosion control and their beauty.



**Cover and amend the soil naturally** - try to plant densely to decrease the need for water and weeding. Compost and fallen leaves improve the soil structure and add nutrients for your plants.

**Remove invasives** - familiarize yourself with the invasive plants in your area and remove them from your property.

**Keep it dark** - if you place light fixtures in your landscape make sure they direct downwards, so they don't distract wildlife. Don't use blue light and turn the lights off when you leave the outdoors.

**Reduce your lawn size** - turf grass provides very few benefits to the ecosystem. For a more sustainable yard, reduce the size of the lawn and add beds for native plants. Turf grasses are typically exotic monocultures - in other words, they consist of a single species, which is most likely not native to the area where they are planted. The widespread use of turf grasses has led to a number of environmental concerns, and to keep them healthy we have to rely on mowers, blowers, additional water, fertilizers, herbicides and pesticides. Before investing in turf grass, consider alternatives, like native grasses, clovers, native plantings or a meadow.



Lawn alternatives, such as meadows (areas with growing grasses and wildflowers) have much to offer and are available to every homeowner with a sunny piece of land. The easiest way to create a meadow? Select a sunny part of your lawn and stop mowing. This will result in your lawn grasses growing and producing seeds. Many of those grasses will flop over after seed production and dry out. Your meadow will look messy. But by then, your new meadow will already be discovered and filled with crickets, hoppers, skippers, dragonflies and birds!



A natural meadow and a prairie ecosystem develop after years of grazing or by haying practices. When carpet-forming lawn grasses are cut less often, they will invest more in vertical and less in horizontal growth, and after flowering and setting seed these grasses lose rigor or die off, which will encourage clump-forming grasses and wildflowers to take over. The cutting and removal of clippings will also prevent shrubbery to move in. Or, if you have the budget, why not let a professional landscaper design a meadow for you? Generally, they will start with a 'clean canvas', which means the removal of all the grasses and weeds before they seed or plant plugs.

**How to get started – Pick a Patch of Lawn and Say, “Goodbye”.** There are several low-cost, chemical-free strategies you can employ, but all options either take some time or a bit of effort to complete.

**1. Cover and Smoother.** By far the laziest way to remove a patch of lawn is to take arborists'

wood chips, newspaper, or cardboard and cover the lawn depriving it of the light and oxygen it needs to grow.



You can start the process at the beginning of the growing season by saturating the lawn with water to push out air and oxygen, laying the cardboard or wood chips (8 inches deep!). Once covered, the lawn is largely deprived of oxygen and light allowing anaerobic decomposition in the soil which breaks down not just the leaves, but the roots of the grass as well. After several weeks, if you've used cardboard, you may wish to pull up and dispose of the cardboard (some research finds cardboard attracts termites and other pests) and cover the now-dead grass with mulch (arborists' wood chips will work quite well - you'll only need 4-6 inches at this point). You can now plant other perennials, or annuals.

**2. Solarize.** This is another technique people use, but it does require a lot of plastic sheeting and doesn't offer any advantages over the mulch technique, except speed. It typically only takes a week or two if you create a tight seal around the edges which is key for building up the heat necessary under the plastic to kill the grass. Clear plastic typically works best. If you do small sections at a time, you could get away with only using a small amount of plastic, reusing it as you move around to different locations.



**3. Dig and replace.** Lawns can also be dug out. If your goal is to install something other than plants, like a pathway or pervious patio, this might be the best way to go. Depending on the area you are removing, you might rent a bobcat, or do this by hand. Once the lawn is removed, you can fill back in the space with dirt for planting, decomposed granite for pathways, or raised beds for vegetable gardening.

For ideas and resources on what to plant, how-tos, and more, visit:

- <https://extension.umd.edu/hgic/topics/lawn-alternatives>
- <https://www.finegardening.com/article/4-ways-to-remove-sod>
- <https://gardentherapy.ca/raised-vegetable-garden/>
- [http://www.plantnative.org/how\\_siteprep.htm](http://www.plantnative.org/how_siteprep.htm)
- <https://content.yardmap.org/learn/installing-maintaining-native-lawn/>
- [www.prairienursery.com](http://www.prairienursery.com)





# CAMPERS CORNER

## Marinette County Parks



This November's weather has been awesome! The sun has been out, the birds are still chirping and you have until November 31 to visit our parks. Pack up the car for a day trip and get out while you can.

### MARINETTE COUNTY OPENING DAY:

May 1..... All Parks, Cabins and Lodges

### MARINETTE COUNTY CLOSING DAY:

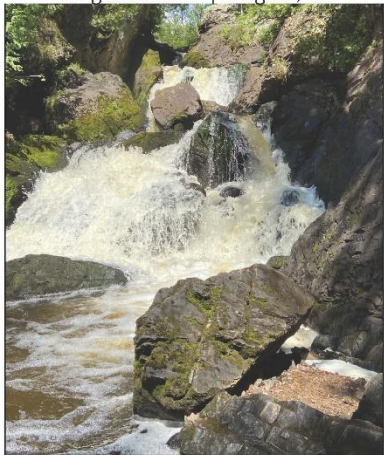
October 15..... Twin Bridge Park and Lake Noquebay Beach House. Potable Water Towers at Morgan and Goodman Parks

November 1..... All Lodges

November 30.....All Parks and Cabins

\*some parks may close earlier due to inclement weather

Long Slide Falls | Niagara, WI



12 Foot Falls | Dunbar, WI



McClintock Park | Athelstane, WI



Thunder Mountain Overlook  
Crivitz, WI



Below – Smalley Falls



### Update – Great American Outdoors Act Threatened Due to Missing Deadlines



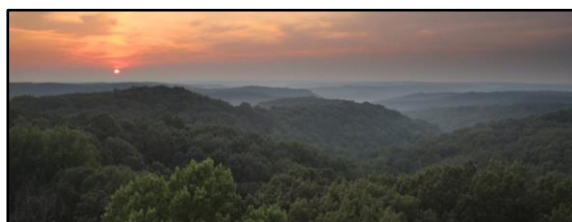
With a key list of Land and Water Conservation Fund projects missing, political subterfuge threatens the bipartisan legislative achievement. The Department of the Interior failed to meet its deadline to submit a list of projects it wants to fund in fiscal year 2021 with money earmarked by the Great American Outdoors Act.

DOI's deadline to submit the list of projects came and went on November 2. Notably, Republican senators Steve Daines of Montana and Cory Gardner of Colorado, who made the GAOA a significant part of their campaigns for reelection, have remained silent about the failure.

Signed into law by President Trump on August 4, the act sets aside a \$9.5 billion budget to spend over five years to address the maintenance backlog on public lands. It also permanently funds the Land and Water Conservation Fund at a quarter of the budget that was set for it in 1978, when adjusted for inflation - an amount that will continue to decrease with each passing year. The GAOA gave the Department of Agriculture (which manages national forests) and DOI (which oversees the Bureau of Land Management, the National Park Service, and several other land agencies) 90 days to submit to Congress a list of projects to direct funding toward in fiscal year 2021, which began on October 1 and runs through September of next year.

That should have been easy, because those lists were drafted all the way back in April to support the bill's legislative progress. But November 2 came and went, and while both departments did submit lists for deferred maintenance projects, DOI's list for LWCF funds never showed up.

The draft version of that list included \$116 million in funding for projects spread across the BLM, NPS, and United States Fish and Wildlife Service. An additional \$23.6 million was directed toward the purchase of six new parcels of public land. By not submitting the final list, DOI is setting some of those projects back, and puts others in outright peril. Organizations hoping to spend LWCF funds - state and local governments and various non-profits - are now left with nothing but uncertainty, meaning they can't set budgets, hire contractors, or conduct planning. The land acquisition deals, in particular, are now in jeopardy, as the sellers may now go with buyers capable of executing deals, and not the federal government.



If DOI continues to delay, it's expected that Congress will step in. But, with so many unknowns surrounding the election and more pressing legislative fights looming over issues like pandemic relief and challenges to the Affordable Care Act, the timeline in which the GAOA could again be acted on is unclear. And that just adds further uncertainty for the governments and organizations waiting on the funds.

Excerpts from:

<https://www.outsideonline.com/2418549/doi-misses-great-american-outdoors-act-deadline#close>

## Peshtigo Fish Platform Complete & Open to the Public

The new fish-viewing platform in Peshtigo is now complete! The walkway is open to the public, there is a new parking area, and there are kiosks built for future information. Benches and educational signage will be installed in spring 2021. For now, however, visit the new platform and get some good views of the Peshtigo River and the dam.



An information kiosk near the new parking area.



The entry to the walkway – the dam is to the right.



A view from atop the walkway looking towards the parking lot.



A scenic view of the dam from the walkway.



Looking back towards the parking area from the end of the walkway.





## Need a Fun Project this Winter? Create Some 'Insect Hotels!'

<https://babbledabbledo.com/science-for-kids-diy-insect-hotel/>



### What is an insect hotel?

An insect hotel, also known as a bug hotel or insect house, is a manmade structure created to provide shelter for insects. They come in a variety of shapes and sizes depending on the specific purpose or specific insect it is catered to. Most consist of several different sections that provide insects with nesting facilities – particularly during winter, offering shelter or refuge for many types of insects.

Not only is it a fun science project for kids, it's also beneficial to your garden! Insect hotels provide a place for insects, particularly pollinators, to hibernate during the upcoming winter and are a way to encourage insect pollination in your yard. They also can attract helpful insects who will naturally prey upon pests and therefore keep your garden pesticide free.



A more elaborate insect hotel

### Materials

- Wood box with separate sections
- Hot glue gun and glue
- White glue
- Bug friendly nesting materials: newspaper scraps, sticks, bark, bamboo, pebbles/rocks, leaves, dried flowers, straw, yarn, burlap, wool

### Instructions

1. Ask your kids to go on a hunt for buggy materials!
2. Gather your materials and saw or break them into smaller pieces. I used a hacksaw to cut a bamboo stick down.
3. Make sure your materials fit tightly in a compartment before gluing them in.
4. Put a layer of white glue in each compartment and glue in your objects. For heavy objects like rocks use hot glue.



5. Repeat gluing the materials into each compartment.
6. Let glue dry for a few days.

Hang it and open up for business! I suggest hanging this away from doors or windows as it will attract plenty of visitors. A good idea is to place your bug hotel near a vegetable garden

as it will hopefully attract pollinators like bees and pest controllers like ladybugs and earwigs.

### Tips for building your Insect Hotel

If you love the idea of a DIY insect hotel in the garden, take it up a notch and read what entomologists have to say about insect hotels and the best (and worst) materials to use for creating one here. A few things we noted from this discussion when building a DIY insect hotel are:

- **Avoid plastic materials.** They can harbor mold which is detrimental to insects.
- **Smaller is better.** Big hotels are incredible but run the risk of parasitic insects moving in and their larvae devouring the larvae of other insects (especially bees).
- **Pick the species you are building for.** When possible, design your hotel around a specific insects that you wish to house. Research the materials they need to nesting and use those in your design.



### Other tips

- Avoid adding food scraps or nuts/acorns unless you want to attract flies and their lovely offspring.
- If you plan on putting this in a place where it will be exposed to rain/snow go ahead and apply a finish stain first or your box will deteriorate. We placed ours on a covered porch.
- Check back every so often so see if you can find any activity in the hotel! Avoid sticking fingers in the compartments in case any biting/stinging visitors have moved in.

Building a DIY insect hotel is a great springboard for discussing the importance of insects in gardens with kids. By making a habitat for different types of insects you can talk about what job each type of bug does in the garden. It's also an opportunity to talk about the food chain and food webs and how each animal, including the ones many kids find a bit creepy, plays a part in the neighborhood ecosystem.

You can also discuss where insects go during the winter. Some insects migrate to warmer locations during the coldest part of the year, but many go into hibernation or lay eggs or overwinter as larvae in order to survive.



Another 'fancy' insect hotel

*See article on page 8 for more information about bug hotels!*

Insect hotels have been around for a while – here are some other ideas for yours if you want something more elaborate for your yard & garden visitors!





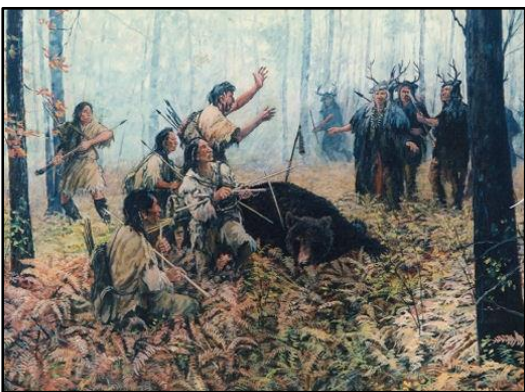
## Get to Know the Black Bear!

<https://www.eekwi.org/animals/mammals/black-bear>



Introducing the Black bear, *Ursus americanus*. Here is some information about Wisconsin's third-largest mammal (moose and elk are #1 and #2, respectively).

Bears have been an important part of history in Wisconsin. The Native Americans honored the bear as a supernatural being and treated the bear hunt with great ceremony and respect. They prized bear skins for robes and the meat and oil for cooking, fuel and medicines. The settlers also placed great value on bear meat and especially sought the bearskins with which they made clothing and bedding. As more settlers moved into Wisconsin, however, there was conflict between people and bears.



Bounty systems were set up to encourage killing of the "noxious pests" and fur traders paid high prices for bearskins. This large-scale killing caused the numbers of bears to decrease. Logging and settlement also reduced bear habitat and numbers. In 1930, people began to protect the bear and limit hunting. Today, wildlife biologists study bear populations and their habitat. Management plans are developed to ensure that nuisance bears are relocated and that population levels remain healthy.



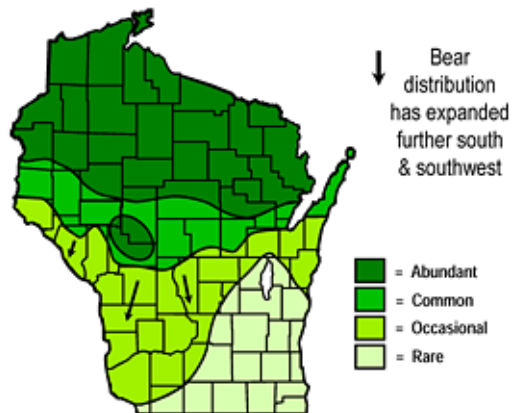
The black bear was Wisconsin's largest resident mammal until recently. In the last few years elk have been reintroduced to the state, moving the bear out of the largest mammal category. Adult males averages 47-70 inches long and weigh about 250-350 pounds. Female bears are smaller and weigh between 120-180 pounds and measure 50-58 inches long. Can you believe that one bear in Wisconsin actually weighed 700 pounds!

Black bears have a round and short body with sturdy legs. Their rounded shape comes from a thick layer of fat under the skin and the dense, coarse hair. Their fur is usually glossy black except for a tan patch across the nose. About 25 percent of Wisconsin's bears have irregular white markings on their chests. They walk on the soles of their feet, the same as people, and have five toes with non-retractable claws. As a matter of fact, the bear's hind footprint looks a lot like a human one. Claws come in handy for hunting, climbing trees and tearing open logs in

search of insects. Even though they're huge bulky animals, don't be fooled. Black bears can run over 30 miles per hour and climb a tree in a flash to get out of harm's way.

Bears like large forested areas with swamps and streams mixed in, similar to what we have in the northern two-thirds of Wisconsin. In the last few years, however, bears have been seen more frequently further south. Bears are finding better habitat as farm fields become unused and reforest. Bear populations have been increasing from an estimated 5,700 in 1985 to 12,700 in 2000.

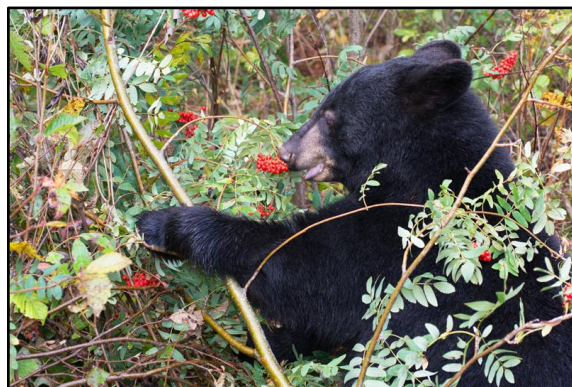
### Wisconsin Black Bear Distribution



Bears search the land for thick ground vegetation with lots of nuts and berries. They are loners. A male bear needs up to 27 square miles for his territory. A female only wanders about 5 miles from her den. You'll know where the territory is by locating a "bear tree." These are trees found along trails and other areas where bears like to visit. The tree, or sometimes a building or park sign will be repeatedly clawed, bitten and rubbed. It might even be marked by a bear's urine scent.

These incredible hulks eat all the food they need for the year in only 6 to 8 months. You might see them out at twilight between mid-May and into late September. In early fall they gorge themselves with greens, nuts, berries like black currant, carrion (dead meat), insects and small mammals.

In late fall, they stuff themselves into a cozy den and fall into a winter sleep (called torpor), but not hibernation. (Unlike hibernation, torpor appears to be an involuntary state that an animal enters into as the conditions dictate. Also unlike hibernation, torpor lasts for short periods of time - sometimes just through the night or day depending upon the feeding pattern of the animal. Think of it as "hibernation light.") Here they stay for the winter months, "bearily" breathing to keep their metabolism slow in order to survive the winter without eating.



Three-year-old females awake in January to give birth to two or three cubs, only stirring from deep slumber to nurse, tend and keep the cubs warm. If you listen carefully, you may hear high-pitched squeals coming from under the snow in the forest. These are the sounds bear cubs make in their winter den. Dens can be found in hollow trees, brush piles, rock crevices, caves, black bear cubs excavated holes in hillsides, or under upturned tree roots. They will even den in open

areas like muskrat dens and let the snow cover them. They don't eat, drink, urinate or defecate all winter. They lose up to 30 percent of their fall weight by spring.

When they emerge in spring, the female bear will communicate with a "woof-woof" and a whimpering sound, signaling the cubs to follow and feed on hearty foods like frogs, carrion, and insects, instead of plants and berries. Plants and berries are mid-summer delicacies that are eaten at the rate of 11-18 pounds per day.








It is rare that you will come in contact with a bear unless you live near bear country or you vacation at campgrounds in the northern part of Wisconsin. Bears can be seen looking for food in places where scrap or leftover food is thrown out, such as at a dump. They are also becoming more common in suburban areas as people move their homes closer to bear habitat and bears come looking for food. We need to put trash cans away, take feeders down at certain times of year, and do other things to help prevent bears from becoming dependent on us for food. (Bears using human-associated foods can quickly become habituated to them and this commonly results in the bears being killed as nuisances.)



Sometimes bears can damage crops or cause damage to your home or property as they search for food. Hunting seasons and selective control of problem bears keeps their numbers at a healthy level for both people and the bear population in general. Black bears are actually quite healthy and long-lived animals which thrive in Wisconsin.

For more information about our WI bears, visit:

-  <https://dnr.wi.gov/topic/wildlifehabitat/documents/bearpractice.pdf>
-  <https://dnr.wisconsin.gov/topic/WildlifeHabitat/bearmanagement.html>
-  <https://bear.org/> - North American Bear Center
-  <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Mammals/Black-Bear>
-  <https://www.thoughtco.com/hibernation-and-torpor-whats-the-difference-1140760>

